WO 2005/026604

23

PCT/GB2004/003944

Claims

- 1. A tube made by introducing an elongated web of heat sealable plastics material through a former and into a host pipe with the longitudinal edges of the web overlapping by a first predetermined amount, the host pipe of diameter larger than that of the tube, said tube expanded up to the diameter of the host pipe until the overlapping edges overlap by a second predetermined amount less than the first predetermined amount, after which the overlapped edges are heat sealed together, wherein the heat sealing is effected by the introduction of electric current along at least one wire strip positioned between the overlapping edges, said wire strip heating to a sufficient extent to form a bond between the material of the overlapping edges.
- 2. A tube according to claim 1 wherein the tube includes a sealing means arranged in relation to the overlapped edges to prevent ingress of foreign matter between the edges and into the tube interior, said sealing means being adapted to be released, deformed, expanded, contracted, folded or unfolded so as to allow the tube, after being placed in the host pipe of diameter larger than that of the tube, to be expanded up to the diameter of the host pipe.
- 3. A tube according to claim 2 wherein the sealing means is applied under factory conditions so that the completed tube can be taken to site and there will be no possibility of foreign matter reaching the surfaces to be heat sealed together.
- 4. A tube according to claim 2 wherein the sealing means can be applied or completed on the tube at the site location where the same is to be inserted into the host pipe.

WO 2005/026604

24

5. A tube according to claim 1 wherein each of the overlapping edges has a wire strip applied thereto, said wire strip positioned on the respective faces of the edges so as to lie side by side when the tube is expanded to the size of the host pipe.

PCT/GB2004/003944

- 6. A tube according to claim 1 wherein the said wire strip runs along the length of the overlapping edges of the tube.
- 7. A tube according to claim 1 wherein the said wire strip is applied to the web of material via a plastic material to which the wires are bonded.
- 8. A method of lining a host pipe, comprising the steps of introducing an elongated web of plastics material into the host pipe such that longitudinal edges of the web overlap by a first predetermined amount, said host pipe having a diameter larger than that of the tube and the tube is expanded up to the diameter of the host pipe until the overlapping edges overlap by a second predetermined amount less than the first predetermined amount, after which the overlapped edges are sealed together via the heating of wires by providing a current along the same, said wires provided as part of one or more wire strips positioned on the web of plastics material to lie in the overlapping edges of the said web to form a seal between said web material.
- 9. A method according to claim 8 wherein the tube includes a sealing means arranged in relation to the overlapped edges to prevent ingress of foreign matter between the edges and into the tube interior during the insertion of the tube in the host pipe, said sealing means being released, deformed, expanded, contracted, folded or unfolded so as to allow the tube to be expanded up to the diameter of the host pipe, and then the overlapping edges sealed together.

WO 2005/026604 PCT/GB2004/003944

25

- 10. A method according to claim 8 wherein wire strips are provided on both of the overlapping edges.
- 11. A method according to claim 10 wherein the wires in the wire strips are caused to carry an electric current when the tube is in position.
- 12. A method according to claim 11 wherein the wires during sealing, are powered sequentially, to limit instantaneous power demand.
- 13. A method according to claim 8 wherein the wire strip comprise a series of wires supported by a tape of plastics material said tape and hence wires joined to the web by heating the tape so as to bond the tape to the web.
- 14. A method according to claim 13 wherein the surface of the web of material is abraded prior to the bonding of the wire strips thereto.
- 15. A method according to claims 13 and 14 wherein the steps are performed in factory conditions and the web subsequently coiled for transport to site.
- 16. A method according to any of claims 8-15 wherein the tube is introduced into the host pipe via a former which forms the web material into a tubular form.